General

Guideline Title

Hyperphosphataemia in chronic kidney disease. Management of hyperphosphataemia in patients with stage 4 or 5 chronic kidney disease.

Bibliographic Source(s)

National Institute for Health and Clinical Excellence (NICE). Hyperphosphataemia in chronic kidney disease. Management of hyperphosphataemia in patients with stage 4 or 5 chronic kidney disease. London (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar. 22 p. (Clinical guideline; no. 157).

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

Note from the National Guideline Clearinghouse (NGC): This guideline was developed by the National Institute for Health and Clinical Excellence (NICE) Internal Clinical Guidelines Programme (see the "Availability of Companion Documents" field).

The following guidance is based on the best available evidence. The full version of the original guideline document gives details of the methods and the evidence used to develop the guidance.

List of All Recommendations

Dietary Management: Children, Young People and Adults

A specialist renal dietitian, supported by healthcare professionals with the necessary skills and competencies, should carry out a dietary assessment and give individualised information and advice on dietary phosphate management.

Advice on dietary phosphate management should be tailored to individual learning needs and preferences, rather than being provided through a generalised or complex multicomponent programme of delivery.

Give information about controlling intake of phosphate-rich foods (in particular, foods with a high phosphate content per gram of protein, as well as food and drinks with high levels of phosphate additives) to control serum phosphate, while avoiding malnutrition by maintaining a protein intake at or above the minimum recommended level. For people on dialysis, take into account possible dialysate protein losses.

If a nutritional supplement is needed to maintain protein intake in children and young people with hyperphosphataemia, offer a supplement with a lower phosphate content, taking into account patient preference and other nutritional requirements.

Phosphate Binders: Children and Young People

For children and young people, offer a calcium-based phosphate binder as the first-line phosphate binder to control serum phosphate in addition to dietary management.

For children and young people, if a series of serum calcium measurements shows a trend towards the age-adjusted upper limit of normal, consider a calcium-based binder in combination with sevelamer hydrochloride[1], having taken into account other causes of rising calcium levels.

For children and young people who remain hyperphosphataemic despite adherence to a calcium-based phosphate binder, and whose serum calcium goes above the age-adjusted upper limit of normal, consider either combining with, or switching to, sevelamer hydrochloride[1], having taken into account other causes of raised calcium.

Phosphate Binders: Adults

For adults, offer calcium acetate as the first-line phosphate binder to control serum phosphate in addition to dietary management.

For adults, consider calcium carbonate if calcium acetate is not tolerated or patients find it unpalatable.

For adults with stage 4 or 5 chronic kidney disease (CKD) who are not on dialysis and who are taking a calcium-based binder:

- Consider switching to a non-calcium-based binder if calcium-based phosphate binders are not tolerated
- Consider either combining with, or switching to, a non-calcium-based binder if hypercalcaemia develops (having taken into account other causes of raised calcium), or if serum parathyroid hormone levels are low

For adults with stage 5 CKD who are on dialysis and remain hyperphosphataemic despite adherence to the maximum recommended or tolerated dose of calcium-based phosphate binder, consider either combining with, or switching to, a non-calcium-based binder.

For adults with stage 5 CKD who are on dialysis and who are taking a calcium-based binder, if serum phosphate is controlled by the current diet and phosphate binder regimen but:

- Serum calcium goes above the upper limit of normal, or
- Serum parathyroid hormone levels are low

Consider either combining with, or switching to, sevelamer hydrochloride or lanthanum carbonate, having taken into account other causes of raised calcium.

Phosphate Binders: Children, Young People and Adults

- If a combination of phosphate binders is used, titrate the dosage to achieve control of serum phosphate while taking into account the effect of any calcium-based binders used on serum calcium levels (also see recommendations above in the sections Phosphate Binders: Children and Young People and Phosphate Binders: Adults).
- Take into account patient preference and the ease of administration, as well as the clinical circumstances, when offering a phosphate binder in line with recommendations listed in the above sections Phosphate Binders: Children and Young People and Phosphate Binders: Adults.
- Advise patients (or, as appropriate, their parents and/or carers) that it is necessary to take phosphate binders with food to control serum phosphate.

Review of Treatments: Children, Young People and Adults

At every routine clinical review, assess the patient's serum phosphate control, taking into account:

- Dietary phosphate management
- Phosphate binder regimen
- Adherence to diet and medication
- Other factors that influence phosphate control, such as vitamin D or dialysis

[1] Although this use is common in UK clinical practice, at the time of publication (March 2013), sevelamer hydrochloride did not have a UK marketing authorisation for use in children for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient should provide informed consent, which should be documented. See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information.

Clinical Algorithm(s)

The recommendations from this guideline have been incorporated into a NICE pathway .

Scope

Disease/Condition(s)

Hyperphosphataemia in chronic kidney disease

Guideline Category

Management

Clinical Specialty

Family Practice

Nephrology

Pediatrics

Surgery

Intended Users

Advanced Practice Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To offer best practice advice on the care of adults, children and young people with stage 4 or 5 chronic kidney disease who have, or are at risk of, hyperphosphataemia

Target Population

- Adults, children and young people with stage 4 or 5 chronic kidney disease who are not on dialysis and who are at risk of hyperphosphataemia
- Adults, children and young people with stage 5 chronic kidney disease who are receiving haemodialysis or peritoneal dialysis and are at risk of hyperphosphataemia

Interventions and Practices Considered

Assessment

1. Assessment of serum phosphate control
2. Dietary assessment

Management/Treatment

1. Dietary phosphate management
    - Provision of individualised information/advice
    - Nutritional supplement (low phosphate content)
2. Phosphate binders in children and young people
    - Calcium-based phosphate binder alone
    - Calcium-based phosphate binder plus sevelamer hydrochloride combination therapy
    - Sevelamer hydrochloride alone
3. Phosphate binders in adults
    - Calcium acetate
    - Calcium carbonate
    - Non-calcium-based binder alone or in combination with a calcium based binder
    - Sevelamer hydrochloride or lanthanum carbonate alone or in combination with a calcium based binder

Major Outcomes Considered

- Management of serum phosphate
- Morbidity, including fractures, advancement of renal bone disease, vascular calcification, cardiovascular impact, and other related issues
- Adverse effects of therapy, immediate and long term
- Cardiovascular-related mortality
- Overall mortality
- For people not already receiving renal replacement therapy, effect of therapy on requirement for renal replacement therapy
- Health-related quality of life
- Resource use and costs

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Searches of Unpublished Data

Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): This guideline was developed by the National Institute for Health and Clinical Excellence (NICE) Internal Clinical Guidelines Programme (see the "Availability of Companion Documents" field for the full version of this guidance).

Search Strategies

The evidence reviews used to develop the guideline recommendations were underpinned by systematic literature searches, following the methods described in "The Guidelines Manual" (see the "Availability of Companion Documents" field). The aim of the systematic searches was to comprehensively identify the published evidence to answer the review questions developed by the Guideline Development Group and Short Clinical Guidelines Technical Team.

The search strategies for the review questions were developed by the Information Services Team with advice from the Short Clinical Guidelines Technical Team. Structured questions were developed using the PICO (population, intervention, comparison, outcome) model and translated into search strategies using subject heading and free text terms. The strategies were run across a number of databases with no date restrictions imposed on the searches.

The NHS Economic Evaluation Database (NHS EED) and the Health Economic Evaluations Database (HEED) were searched for economic evaluations. Search filters for economic evaluations and quality of life studies were used on bibliographic databases. There were no date restrictions imposed on the searches.

Guideline Development Group members were also asked to alert the Short Clinical Guidelines Technical Team to any additional evidence, published, unpublished or in press, that met the inclusion criteria.

The searches were undertaken between October 2011 and March 2012.

Scoping Searches

Scoping searches were undertaken using the websites and databases (listed in alphabetical order; and found in Appendix D of the full version of the original guideline document between May and June 2011; browsing or simple search strategies were employed. The search results were used to provide information for scope development and project planning.

Main Searches

The following sources were searched for the topics presented in Appendix D of the full version of the original guideline document.

- Cochrane Database of Systematic Reviews – CDSR (Wiley)
- Cochrane Central Register of Controlled Trials – CENTRAL (Wiley)
- Database of Abstracts of Reviews of Effects – DARE (Wiley and CRD website)
- EMBASE (Ovid) Health Technology Assessment Database – HTA (Wiley and CRD website)
- MEDLINE (Ovid) MEDLINE In-Process (Ovid)

Systematic Reviews and Mapping Searches

The first search was conducted in October 2011 and looked for systematic reviews and primary studies (the 'mapping search' with no methodological filter applied) to answer questions about which dietary methods are most effective (see Appendix D of the full version of the original guideline document).

The MEDLINE search strategies are presented in Appendix D of the full version of the original guideline document. They were translated for use in each of the other databases.

Economic Searches

The following sources were searched to identify economic evaluations and quality of life data featuring the population of patients with stage 4 or 5 CKD who are hyperphosphataemic.

- NHS Economic Evaluation Database – NHS EED (Wiley and CRD website)
- Health Economic Evaluations Database – HEED (Wiley)
- Embase (Ovid) MEDLINE (Ovid)
- MEDLINE In-Process (Ovid)

More information regarding searches and study questions can be found in Appendix D of the full version of the original guideline document.

Inclusion and Exclusion Criteria

Studies were included or excluded from the review according to the criteria listed in Table 1 in Appendix F of the full version of the original guideline document.

Number of Source Documents

From a database of 3,026 abstracts, 244 full-text articles were ordered (including 107 identified through review of relevant bibliographies) and 13 papers describing 11 primary studies met the inclusion criteria. No paediatric studies meeting the inclusion criteria were found. Table 1 in the full version of the original guideline document lists the details of the included studies.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Overall Quality of Outcome Evidence in Grading of Recommendations Assessment, Development, and Evaluation (GRADE)

High: Further research is very unlikely to change the Guideline Development Group's (GDG) confidence in the estimate of effect.

Moderate: Further research is likely to have an important impact on the GDG's confidence in the estimate of effect and may change the estimate.

Low: Further research is very likely to have an important impact on the GDG's confidence in the estimate of effect and is likely to change the estimate.

Very Low: The GDG is very uncertain about the estimate.

Methods Used to Analyze the Evidence

Meta-Analysis of Randomized Controlled Trials

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): This guideline was developed by the Centre for Clinical Practice at the National Institute for Health and Clinical Excellence (NICE) (see the "Availability of Companion Documents" field for the full version of this guidance).

The short clinical guideline process follows the standard process for assessing and summarising the evidence (see Chapter 6 of 'The NICE guidelines manual 2009').

Grading of Recommendations Assessment, Development, and Evaluation (GRADE) assessment was adapted, and the following variables were considered: limitations, inconsistency, and indirectness. Imprecision was rated as not relevant throughout because it does not apply to the type of evidence considered in this question. The following principles were applied to assess quality: a systematic review of qualitative studies started as high, and a single qualitative study started as moderate, with downgrading as appropriate. For the GRADE assessment, registry studies were assessed as low-quality evidence, with downgrading as appropriate.

Only the evidence considered to be directly relevant is summarised in the GRADE tables in the original guideline document.

Methods Used to Formulate the Recommendations

Expert Consensus

Informal Consensus

Description of Methods Used to Formulate the Recommendations

Note from the National Guideline Clearinghouse (NGC): This guideline was developed by the Centre for Clinical Practice at the National Institute for Health and Clinical Excellence (NICE) (see the "Availability of Companion Documents" field for the full version of this guidance).

Forming and Running the Short Clinical Guideline Development Group (GDG)

Each short clinical guideline is developed by a unique GDG consisting of 10–12 members, supported by the Short Clinical Guidelines Team. Each GDG has a Chair, healthcare professional members and a minimum of two patient and carer members. Co-opted expert advisers are recruited, as appropriate. A Clinical Adviser, who has specific content expertise and additional responsibilities, may also be appointed depending on the topic. Recruitment of the GDG Chair and members is carried out in accordance with NICE's policy.

The GDG makes its decisions using the best available evidence presented to it at GDG meetings by the Short Clinical Guidelines Team. The use of formal consensus methods within the GDG will be considered on a case-by-case basis.

Developing Review Questions

A short clinical guideline has a narrow scope and covers only part of a care pathway. It addresses a maximum of three subject areas covering clinical management. This will result in a small number of key clinical issues. These are broken down into a defined number of review questions — usually one or two per clinical management area. The exact number will be dictated by the size of the short clinical guideline remit and the amount of development time available.

Creating Guideline Recommendations

Explicit methods of linking the evidence to recommendations are used for short clinical guidelines if the topic is suitable. This involves using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach.

Research recommendations are formulated for short clinical guidelines. Their number is dependent on the size of the short clinical guideline remit and the amount of development time available.

Writing the Guideline

There are usually three versions of short clinical guidelines:

- The full guideline – all the recommendations, details of how they were developed and summaries of the evidence they are based on.
- The quick reference guide – a summary of the recommendations for healthcare professionals.
- 'Understanding NICE guidance' – a summary for patients and carers

The full guideline is written by the Short Clinical Guidelines Team, following the principles in Chapters 9 and 10 of 'The guidelines manual' (see the "Availability of Companion Documents" field).

Rating Scheme for the Strength of the Recommendations

Interventions that Must (or Must Not) Be Used

The Guideline Development Group (GDG) usually uses 'must' or 'must not' only if there is a legal duty to apply the recommendation. Occasionally must (or 'must not') is used if the consequences of not following the recommendation could be extremely serious or potentially life threatening.

Interventions that Should (or Should Not) Be Used – a 'Strong' Recommendation

The GDG uses 'offer' (and similar words such as 'refer' or 'advise') when they are confident that, for the vast majority of patients, an intervention will do more good than harm, and be cost effective. The GDG uses similar forms of words (for example, 'Do not offer'…) when they are confident that an intervention will not be of benefit for most patients.

Interventions that Could Be Used

The GDG uses 'consider' when they are confident that an intervention will do more good than harm for most patients, and be cost effective, but other options may be similarly cost effective. The choice of intervention, and whether or not to have the intervention at all, is more likely to depend on the patient's values and preferences than for a strong recommendation, and so the healthcare professional should spend more time considering and discussing the options with the patient.

Cost Analysis

Methods for obtaining cost estimates in the health economic analysis were in accordance with "The Guidelines Manual" (see the "Availability of Companion Documents" field).

Decision Problems

Two questions were addressed, based on the literature that had been identified in the review of clinical effectiveness evidence:

- For adults with stage 5 chronic kidney disease (CKD) on dialysis, which phosphate binder(s) provide cost-effective first-line management of

hyperphosphataemia and its associated outcomes?
- For adults with stage 5 CKD on dialysis, what is the cost effectiveness of various sequences of phosphate binders in the management of hyperphosphataemia?

Both questions were explored using the same model structure and, as far as the underlying simulation of hyperphosphataemia in CKD stages 4 and 5 was concerned, the same model parameters.

To explore the economic consequences of phosphate binders (first-line and sequential use) for the management of hyperphosphataemia, a cost–utility analysis was performed, estimating expected costs and benefits (in terms of quality-adjusted life-years [QALYs]) for each comparator.

Methods

The model used an individual patient ('discrete event') simulation approach, capturing costs and effects associated with a series of discrete health states. Discrete-event simulation was considered to be the most appropriate structure for the analysis because of the complex relationships between biochemical intermediate outcomes (such as blood phosphate and calcium concentrations) and long-term, patient-relevant outcomes such as cardiovascular events, fractures and death.

Please see Appendix F in the full version of the original guideline document for more information.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

The guideline was validated through two consultations.

1. The first draft of the guideline (the full guideline and National Institute for Clinical Excellence [NICE] guideline) were consulted with stakeholders and comments were considered by the Guideline Development Group (GDG).
2. The final consultation draft of the full guideline, the NICE guideline and the Information for the Public were submitted to stakeholders for final comments.

The final draft was submitted to the Guideline Review Panel for review prior to publication.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate management of hyperphosphataemia in chronic kidney disease to preserve renal function and reduced the rates of malnutrition and hospitalisation

Potential Harms

- Malnutrition

- Hospitalisation
- Pill burden of keto/amino acid supplements
- Need for additional phosphate management
- Need for additional calcium supplementation
- Nausea and vomiting, constipation, diarrhoea, abdominal distension and upper abdominal pain
- Hypercalcaemia
- Coronary artery calcification

Qualifying Statements

Qualifying Statements

- This guidance represents the view of the National Institute for Health and Clinical Excellence (NICE), which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer, and informed by the summary of product characteristics of any drugs they are considering.
- Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.
- The guideline will assume that prescribers will use a drug's summary of product characteristics to inform decisions made with individual patients.
- Patients and healthcare professionals have rights and responsibilities as set out in the National Health Service Constitution for England – all NICE guidance is written to reflect these. Treatment and care should take into account individual needs and preferences. Patients should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. If someone does not have the capacity to make decisions, healthcare professionals should follow the Department of Health's advice on consent, the code of practice that accompanies the Mental Capacity Act and the supplementary code of practice on deprivation of liberty safeguards. In Wales, healthcare professionals should follow advice on consent from the Welsh Government.
- This guideline recommends some drugs for indications for which they do not have a UK marketing authorisation at the date of publication, if there is good evidence to support that use. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or those with authority to give consent on their behalf) should provide informed consent, which should be documented. See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information. Where recommendations have been made for the use of drugs outside their licensed indications ('off-label use'), these drugs are marked with a footnote in the recommendations.
- For all recommendations, NICE expects that there is discussion with the patient about the risks and benefits of the interventions, and their values and preferences. This discussion aims to help them to reach a fully informed decision.

Implementation of the Guideline

Description of Implementation Strategy

The National Institute for Health and Clinical Excellence (NICE) has developed tools to help organisations implement this guidance. These are available on the NICE Web site (http://guidance.nice.org.uk/CG157 ; see also the "Availability of Companion Documents" field).

Implementation Tools

Audit Criteria/Indicators

Clinical Algorithm

Patient Resources

Resources

Slide Presentation

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

National Institute for Health and Clinical Excellence (NICE). Hyperphosphataemia in chronic kidney disease. Management of hyperphosphataemia in patients with stage 4 or 5 chronic kidney disease. London (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar. 22 p. (Clinical guideline; no. 157).

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2013 Mar

Guideline Developer(s)

National Institute for Health and Care Excellence (NICE) - National Government Agency [Non-U.S.]

Source(s) of Funding

National Institute for Health and Clinical Excellence (NICE)

Guideline Committee

Guideline Development Group

Composition of Group That Authored the Guideline

Guideline Development Group: Gary McVeigh *(Chair)*, Professor of Cardiovascular Medicine, Queen's University, Belfast; David Bennett-Jones, Consultant – Renal Medicine, University Hospitals Coventry and Warwickshire; Shelley Cleghorn, Principal Paediatric Nephrology Dietitian, Great Ormond Street Hospital for Children; Roy Connell, Clinical Nurse Specialist – Paediatric dialysis, Nottingham University Hospital; Indranil Dasgupta, Consultant Physician and Nephrologist, Birmingham Heartlands Hospital; Sylvia Grace, Renal Dietitian, University Hospitals Coventry and Warwick NHS Trust; Clair Huckerby, Pharmaceutical Adviser – Medicines Management Lead, NHS Dudley; Nora Kerigan, Dialysis Adequacy Practitioner, Lancashire Teaching Hospitals NHS Trust; Fiona Loud, Patient and carer member, The Kidney Alliance; Nicholas Palmer, Patient and carer member, National Kidney Federation; Rukshana Shroff Consultant in Paediatric Nephrology, Great Ormond Street Hospital for Children

Financial Disclosures/Conflicts of Interest

Guideline Development Group Member	Interest Declared	Type of Interest	Decisions Taken
Gary McVeigh	None		
David Bennett Jones	None		
Shelley Cleghorn	None		
Roy Connell	None		
Indranil Dasgupta	Chief Investigator in the UK for the Steering study which is an observational study of Osvaren (calmag) in dialysis patients	Non Personal Pecuniary	Leave the room prior to any decisions and recommendations made
Sylvia Grace	None		
Clair Huckerby	None		
Nora Kerigan	None		
Fiona Loud	None		
Nicholas Palmer	None		
Rukshana Shroff	None		

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) format from the National Institute for Health and Clinical Excellence (NICE) Web site .

Availability of Companion Documents

The following are available:

- Hyperphosphataemia in chronic kidney disease. Management of hyperphosphataemia in patients with stage 4 or 5 chronic kidney disease. Full guideline. London (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar. 164 p. (Clinical guideline; no. 157). Electronic copies: Available in Portable Document Format (PDF) from the National Institute for Health and Clinical Excellence (NICE) Web site .
- Hyperphosphataemia in chronic kidney disease. Management of hyperphosphataemia in patients with stage 4 or 5 chronic kidney disease. Appendices. London (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar. 164 p. (Clinical guideline; no. 157). Electronic copies: Available in PDF from the NICE Web site .
- Hyperphosphataemia in chronic kidney disease. Baseline assessment tool. London (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar (Clinical guideline; no. 157). Electronic copies: Available from the NICE Web site .
- Hyperphosphataemia in chronic kidney disease. Clinical audit tools. London (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar (Clinical guideline; no. 157). Electronic copies: Available from the NICE Web site .
- Hyperphosphataemia in chronic kidney disease. Clinical case scenarios. London (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar (Clinical guideline; no. 157). Electronic copies: Available in PDF and PowerPoint from the NICE Web site .
- Management of hyperphosphataemia. Costing report. London (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar. 19 p. (Clinical guideline; no. 157). Electronic copies: Available in PDF from the NICE Web site .
- Hyperphosphataemia in chronic kidney disease. Costing template. London (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar (Clinical guideline; no. 157). Electronic copies: Available from the NICE Web site .
- Hyperphosphataemia in chronic kidney disease. Slide sets. London (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar (Clinical guideline; no. 157). Electronic copies: Available from the NICE Web site .
- Hyperphosphataemia in chronic kidney disease overview. NICE pathway. (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar. (Clinical guideline; no. 157). Electronic copies: Available from the NICE Web site .
- The guidelines manual 2009. London (UK): National Institute for Health and Clinical Excellence (NICE); 2009 Jan. Electronic copies: Available in Portable Document Format (PDF) from the NICE Archive Web site .

Patient Resources

The following is available:

- Hyperphosphataemia in chronic kidney disease. Information for the public. London (UK): National Institute for Health and Clinical Excellence (NICE); 2013 Mar. Electronic copies: Available from the National Institute for Health and Clinical Excellence (NICE) Web site .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This summary was completed by ECRI Institute on June 6, 2013.

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